

cultivation at the tail-ends of the Kodayar irrigation channels where the crop frequently suffers from drought. These experiments have been fruitful of practical results. The experiment of annual, as opposed to biennial, cultivation of *punja* lands was successfully repeated for the fifth time at the experimental *punja* farm at Alleppey. The department is now demonstrating the success of this experiment in four more places, *viz.*, Kumarakam, Vembanad New Reclamation, Ramankari and Karunadi. Dr. Kunjan Pillai reports that already 3,500 acres of *punja* lands which would have remained fallow under normal conditions, were cultivated by the ryots during 1097, as a result of the experiments conducted at the Alleppey farm. Demonstrations of improved methods of cultivating paddy were conducted on ryots' lands in as many as 34 centres during the year, resulting in an increased average net profit of Rs. 17 per acre. There are extensive areas of lands in Central and North Travancore which, if reclaimed, would substantially increase the production of paddy in the country. The problems involved in their reclamation, however, are more biological than chemical, and with a view to successfully tackle them Government have decided to give a course of training in bacteriology to the Ag. Agricultural Chemist in the Agricultural Research Institute at Pusa. Demonstrations were conducted in the cocoanut farm at Alleppey to show how sandy wastes could be profitably converted into cocoanut gardens, with the result that already a large extent of such lands in the neighbourhood has been successfully planted with cocoanut. It is now proposed to open a fresh cocoanut demonstration farm at Vaikam. It is also proposed to open a ginger farm at Ettumanur to improve the cultivation of that important commercial crop. The development of fruit cultivation is another matter engaging the earnest attention of the department. Arrangements in regard to the opening of a fruit farm in South Travancore have been completed and the Director has been instructed to open one or more fruit farms on the High Ranges to try experiments in grafting and budding in the case of the jack and the mango and to extend the cultivation of pine-apple, for which there is great scope, with a view to create facilities for the eventual establishment of a canning industry. Successful demonstrations were given with the Fordson tractor both on wet and on dry lands where the soil was not heavy clay. Manures to the value of more than Rs. 56,000 were sold during 1097 by departmental and private agencies, to the latter of which a liberal commission is allowed. Arrangements have been made for the employment of Co-operative Societies as sub-agents for the sale of manure, and six Societies have already started on this work, one advantage of the system being that these Societies can sell manure to their members on credit and realise the cost in easy instalments. The Agricultural Middle School at Alwaye, referred to in paragraph 12 of my Address last year, was opened on the 1st Edavam, 1097, the class consisting of 4 departmental subordinates and 28 outsiders. A farm and a workshop are attached to the school and instruction is imparted in Malayalam in both the theory and the practice of agriculture, prominence being given to field work. The period of training is two years. Sustained efforts at popularising the silk industry are being made and a block of lands comprising 200 acres in the Anad *pakuthi* of the Nedumangad taluk has been subdivided into five-acre plots and earmarked for assignment for mulberry cultivation to the pupils trained in silk-worm rearing, who are mostly drawn from the depressed classes. The overseer attached to the Silk Farm in Trivandrum has returned after a course of practical training in rug-making and carpet-weaving, and a provision of Rs. 2,000 has been allotted in the budget of the current year to enable these industries also to be taught to the pupils in the farm.

**20. Fisheries.**—Arrangements have been made at Nindakarai near Quilon, for conducting experiments in breeding and curing marine fish, and the number of fish-curing yards has risen from three to five. Fish-curing yards will also be opened shortly at Colachel and the Cape and an employé of the Fisheries Department has been deputed for training in fish-canning methods at Chaliyam in Malabar.

**21. Industries.**—The attention of the Department of Industries during the period under review has been mainly directed towards the investigation of conditions favourable to the establishment of new industries, the introduction